

BOTANY.—*New plants from Central America—III.*¹ PAUL C. STANDLEY, U. S. National Museum.²

The new species described in the present paper were all collected by the writer in 1924 in Costa Rica and Panama. Most of them belong to the Rubiaceae, and chiefly to the genus *Psychotria*, the largest and most difficult of the American genera of this family.

Xylopia xylopioides (Dunal) Standl.

Unona xylopiodes Dunal, Monogr. Anon. 117. pl. 21. 1817.

Xylopia grandiflora St. Hil. Fl. Bras. Merid. 1: 40. 1825.

Xylopia longifolia A. DC. Mém. Soc. Genève 5: 210. 1832.

Martius (Fl. Bras. 13¹: 44. 1841) states that the three names here listed relate to the same plant. If this is true, it is necessary to employ for it the oldest specific name.

Colubrina heteroneura (Griseb.) Standl.

Zizyphus heteroneurus Griseb. Bonplandia 1858: 3. 1858.

Rhamnus biglandulosa Sessé & Moc. Pl. Nov. Hisp. 38. 1887.

Cormonema nelsoni Rose, Contr. U. S. Nat. Herb. 3: 315. 1895.

Cormonema biglandulosa Standl. Contr. U. S. Nat. Herb. 23: 718. 1923.

Cormonema multiflora T. S. Brandeg. Univ. Calif. Publ. Bot. 10: 411. 1924.

Rhamnus gonzalezii Riley, Kew Bull. 1923: 173. 1923.

This species was first described from Panama, where it is abundant, but it ranges northward along the Pacific coast to Sinaloa. It is referable to the genus *Cormonema*, published by Reissek, but that genus has no character by which it may be distinguished from *Colubrina* except the presence of spines upon the branches. This is scarcely to be considered a valid generic character.

Doliocarpus multiflorus Standl., sp. nov.

Large woody vine; leaves short-petiolate, the blades broadly obovate to oblong-obovate, 13–21 cm. long, 5–10 cm. wide, obtuse to attenuate at base, acute at apex or rounded and short-acuminate, remotely and coarsely sinuate-serrate toward the apex, coriaceous, bright green, smooth, sparsely puberulent beneath along the nerves or glabrous; flowers long-pedicellate or rarely subsessile, in densely clustered, few-flowered racemes on old wood, the pedicels puberulent; sepals unequal, 3–4 mm. long, glabrous, ciliolate; ovary densely puberulent.

Type in the U. S. National Herbarium, no. 1,219,187, collected on brushy slope near Catival, Province of Colón, Panama, near sea level, January 9, 1924, by Paul C. Standley (no. 30285). *Fendler* 50 from Chagres represents the same species.

This is the only species of *Doliocarpus* with racemose inflorescence known from Central America. In Central America this genus of the Dilleniaceae has been collected only in Panama, where five species are known, but one species grows in Mexico.

¹ See this JOURNAL 15, 101–107. 1925.

² Published by permission of the Secretary of the Smithsonian Institution.

Dolioscarpus punctatus Standl., sp. nov.

Large woody vine; petioles 8–12 mm. long; leaf blades oblong to oblong-elliptic, 6–15 cm. long, 2–6.5 cm. wide, usually long-acuminate or sometimes short-acuminate, rounded to acute at base, coarsely sinuate-serrate or subentire, coriaceous, glabrous above, beneath with a few short appressed hairs along the nerves, densely white-punctate; pedicels slender, much longer than the flowers, densely clustered in the axils of the leaves, puberulent, often 2 cm. long; sepals very unequal, brownish, minutely and rather sparsely sericeous, the inner about 8 mm. long; petals white; anthers oblong; fruit globose, red, 1 cm. in diameter, hirtellous-scabrous.

Type in the U. S. National Herbarium, no. 2293, collected near Chagres, Panama, February, 1850, by A. Fendler (no. 305). The following collections also belong here:

PANAMA: Near Catival, Province of Colón, *Standley* 30323. France Field, Canal Zone, *Stevens* 1337. Agua Clara, Canal Zone, *Pittier* 3988. Río Fató, Province of Colón, *Pittier* 3949, 4187. Gatún, *Hayes* 22. Near Puerto Obaldía, San Blas Coast, *Pittier* 4339.

Related to **Dolioscarpus dentatus** (Aubl.) Standl. (*Tigarea dentata* Aubl. Pl. Guian. 920. *pl.* 351. 1775), but in that species, which occurs in Panama, the leaves are not punctate, and the ovary is glabrous.

Hybanthus anomalus (H. B. K.) Standl.

Ionidium anomalum H. B. K. Nov. Gen. & Sp. 5: 381. *pl.* 500. 1821.

Eugenia zetekiana Standl., sp. nov.

Shrub 2.5–4.5 m. high, with few branches, the branchlets densely ferruginous-tomentose; petioles very stout, 6–12 mm. long, densely ferruginous-tomentose; leaf blades lanceolate or narrowly oblong-lanceolate, about 30 cm. long, 6.5–9.5 cm. wide, attenuate at apex, rounded at base, coriaceous, glabrous above, beneath tomentose along the costa or glabrate, the venation prominent on both surfaces, the costa stout, the lateral nerves about 20 on each side, divaricate, slightly curved, anastomosing to form a distinct nerve about 2 mm. from the margin; flowers in terminal, simple or branched racemes, these 7–8 cm. long, few-flowered, densely reddish-velutinous, the flowers subsessile; bractlets minute, subulate; fruit subglobose, 2-celled, 1.5–1.8 cm. in diameter, densely velvety-tomentose; calyx limb short-produced beyond the fruit, persistent, 5-lobate, the lobes semiorbicular, broadly rounded at apex; seeds one in each cell, hemispheric, 12 mm. long, brown and shining.

Type in the U. S. National Herbarium, no. 1,217,607, collected in wet forest on hills north of Frijoles, Canal Zone, Panama, December 19, 1923, by Paul C. Standley (no. 27503). Collected also on hills west of the Canal, near Gatún, *Standley* 27192.

The true position of the plant is somewhat doubtful. It belongs to the genus *Eugenia* as limited by Bentham and Hooker. It has a strong resemblance in aspect to the Brazilian *Schizocalyx pohlianus* Berg, but I doubt that it could be referred to the latter genus, should that group be segregated.

Eugenia zetekiana is named in honor of Mr. James Zetek, who has done more than any other person to popularize the advantages of the Canal Zone as a field for natural history studies. He has spared no personal effort in making the resources of the Zone available for the use of students, and no investigator who has worked in that region can fail to appreciate the results of his labors.

Watsonamra alfaroana Standl., sp. nov.

Simple shrub 1-1.5 m. high, the stems obtusely quadrangular or subterete, about 1.5 cm. in diameter; stipules broadly oblong, 5-5.5 cm. long, very obtuse, brown, finely striate, glabrous within, thinly sericeous outside; petioles 8-20 cm. long, naked below, narrowly winged above the middle, thinly sericeous or glabrate; leaf blades broadly ovate, 40-50 cm. long, about 40 cm. wide, when young sparsely pilose above with minute appressed hairs, beneath densely short-sericeous when young, much of the pubescence persistent in age, the blades pinnatifid two-thirds the distance to the midrib, the segments again pinnatifid, the lobes broadly ovate-oblong, acute, the terminal segment less deeply lobed or merely angulate; cymes dense, few-flowered, sessile or nearly so; fruit globose, 12-15 mm. in diameter, densely tuberculate, capped by the withered calyx; calyx in fruit 2 cm. long, the lobes oblong, obtuse, united below; seeds numerous, brown, acutely angulate.

Type in the U. S. National Herbarium, no. 1,152,712, collected in moist forest along the Río Grande de Tárcoles, near Capulín, Costa Rica, altitude about 80 meters, April 2, 1924, by Paul C. Standley (no. 40194).

Related to *W. gymnopoda* Standl., of the Atlantic coast of Panama, but in that species the leaves are merely once pinnatifid, with narrow, nearly glabrous segments, and the stipules are acuminate or attenuate.

The species is named for Don Anastasio Alfaro, Director of the National Museum of Costa Rica, one of the most distinguished of Central American scientists. To him the writer is indebted for many favors received during the course of botanical work in Costa Rica, among others a delightful visit to the impressive Volcano of Poás.

Psychotria tonduzii Standl., sp. nov.

Simple shrub, about 1 m. high, the stems green, glabrous; stipules green, broadly triangular, about 4 mm. long, at least the base persistent; petioles 2.5-7 cm. long; leaf blades elliptic to obovate-oblong, mostly 19-35 cm. long and 7-14 cm. wide, obtuse or rounded at apex and abruptly contracted into a short broad acute acumen, acute to long-decurrent at base, rather fleshy, glabrous, deep green above, paler beneath; flowers cymose-paniculate, the panicles axillary, usually sessile and branched from the base, sometimes short-pedunculate, with few stout puberulent branches, the flowers sessile in dense heads; bracts and bractlets broad, green, surpassing the calyx; hypanthium puberulent, 1.5 mm. long; calyx 1.5 mm. long, green, puberulent, the 5 lobes broadly ovate, acutish; corolla creamy white, 3 mm. long, minutely puberulent outside, the lobes about equaling the limb.

Type in the U. S. National Herbarium, no. 1,153,160, collected in wet forest at La Estrella, Province of Cartago Costa Rica, March 27, 1924, by Paul C. Standley (no. 39461). The following specimens also belong here:

COSTA RICA: Orosi, Province of Cartago, *Standley* 39797, 39850. El Muñeco, south of Navarro, Province of Cartago, alt. about 1,400 meters, *Standley* 33585, 33658, 33439. Boca de Zhorquín, Talamanca, *Tonduz* 8621. La Hondura, Province of San José, alt. about 1,400 meters, *Standley* 36490, 37789.

Related to *P. anomothyrsus* Schum. & Donn. Smith and *P. aggregata* Standl., both of which have long-pedunculate inflorescence.

Psychotria torresiana Standl., sp. nov.

Shrub, about 3 m. high, much branched, the branches slender, green, glabrous; stipules 4 mm. long, green, persistent, closely sheathing, emarginate at apex with a deep broad sinus; petioles slender, 1-2 cm. long; leaf blades lance-linear, 9-16 cm. long, 1.5-2.5 cm. wide, long-acuminate and usually subfalcate at apex, acute or attenuate at base, thin glabrous, deep green above, pale beneath; inflorescence terminal, open-paniculate, many-flowered, slender-pedunculate, about 11 cm. long and 9 cm. wide, the primary branches divaricate or refracted, glabrous, the flowers sessile or short-pedicellate in few-flowered slender-pedunculate cymes, the bracts linear-lanceolate, green, the bractlets minute; calyx 1 mm. long, shallowly 5-dentate; corolla not seen; fruit subglobose, blue, 5 mm. long, the 2 stones coarsely costate dorsally.

Type in the U. S. National Herbarium, no. 1,153,178, collected in wet forest near Orosi, Province of Cartago, Costa Rica, March 30, 1924, by Paul C. Standley (no. 39769). Nos. 39725 and 39883 from Orosi also represent the species.

Easily recognized among the Costa Rican species of the genus by the very narrow leaves. This species is named for Prof. Rubén Torres Rojas to whose courtesy I owe several pleasant excursions.

Psychotria jimenezii Standl., sp. nov.

Shrub or small tree 2.5-4.5 m. high, the branchlets terete, ferruginous-tomentose; stipules triangular, acute, 1 cm. long, brown, early deciduous from the base, tomentulose; petioles 3 mm. long or less; leaf blades oblong-oblanccolate, 9-14.5 cm. long, 2.5-4 cm. wide, long-acuminate, attenuate to the base, deep green above, glabrous, beneath paler, puberulent along the nerves; inflorescence terminal, cymose-paniculate, long-pedunculate or often branched from the base, open, many-flowered, about as broad as long, the branches fulvous-tomentulose, divaricate or ascending at a wide angle; flower sessile in few-flowered headlike cymes; bracts and bractlets small, deciduous; calyx 1 mm. long, very shallowly 5-lobate, the lobes broad, acutish, obscurely puberulent; corolla creamy white, 2.5 mm. long, glabrous, the lobes crect, with incurved tips, nearly as long as the tube; stamens shorter than the corolla lobes.

Type in the U. S. National Herbarium, no. 1,153,107, collected in wet forest at La Hondura, Province of San José, Costa Rica, altitude about 1,400 meters, March 16, 1924, by Paul C. Standley (no. 37892). Nos. 36555 and 37955, from the same locality also belong here.

The species is named for Don Otón Jiménez, well known as one of the enthusiastic botanists of Costa Rica, to whom I am under obligations for many favors received during a recent visit to Costa Rica. It was in his company that the type of the species was collected, during a visit to the rich valley of La Hondura, on the Atlantic watershed.

Psychotria orosiana Standl., sp. nov.

Shrub 1-3 m. high, much branched, the branchlets glabrous; stipules 5 mm. long, early deciduous, bilobate, the lobes subulate, ferruginous-tomentose, the sheath glabrous; petioles 2 mm. long or less; leaf blades oblong-obovate or elliptic-obovate, 6-12.5 cm. long, 2-4.5 cm. wide, rather abruptly acute or acuminate, with an obtuse tip, gradually or abruptly long-attenuate

to the base, thin, glabrous, paler beneath; inflorescence terminal, cymose-paniculate, long-pedunculate, the panicles 4-6 cm. broad, broader than long, many-flowered, open, the branches slender, glabrous, divaricate or ascending at a wide angle, the bracts and bractlets minute; flowers sessile or short-pedicellate, in few-flowered cymes; calyx glabrous, 1 mm. long, shallowly 5-dentate; corolla greenish white, glabrous, 2.5-3 mm. long, the lobes nearly as long as the tube.

Type in the U. S. National Herbarium, no. 1,153,182, collected in moist forest near Orosi, Province of Cartago, Costa Rica, March 30, 1924, by Paul C. Standley (no. 39803). The following specimens also represent the species:

COSTA RICA: Orosi, *Standley* 39766, 39768, 39861. El Muñeco, south of Navarro, Province of Cartago, alt. about 1,400 m., *Standley* 33444.

P. orosiana is well marked by the practically sessile leaves.

***Psychotria siggersiana* Standl., sp. nov.**

Shrub, 1-1.8 m. high, the stems simple, green, sparsely villous-hirsute or glabrous; stipules green, about 7 mm. long, rounded-deltoid, usually glabrous, finally deciduous from the persistent sheath; petioles 4.5-9 cm. long, hirsute or glabrate; leaf blades elliptic or broadly elliptic, 20-34 cm. long, 11-17 cm. wide, abruptly short-acuminate at apex or rounded and short-acuminate, acute at base, somewhat fleshy, copiously villous-hirsute on both surfaces, or sometimes glabrate above; inflorescence axillary, cymose-paniculate, many-flowered, ample, sometimes 20 cm. broad, the peduncles shorter than the cymes, the branches villous-hirsute; flowers sessile, usually densely clustered, the bracts large, green, villous, equaling or exceeding the flowers; calyx about 1 mm. long, sparsely short-villous, the 5 lobes deltoid-ovate; corolla 3 mm. long, greenish white, salverform, sparsely short-villous outside; fruit subglobose, red, 5-6 mm. long, the 2 stones deeply concave on the inner face.

Type in the U. S. National Herbarium, no. 1,153,058, collected in wet forest near Guápiles, Province of Limén, Costa Rica, altitude about 500 meters, March 12-13, 1924, by Paul C. Standley (no. 37210). The following additional specimens belong to this species:

COSTA RICA: Guápiles, *Standley* 37268, 37047, 37228, 37206. Tuis, alt. 650 m., *Tonduz*, 11465.

Related to *P. tonduzii*, but differing conspicuously in the broad leaves with copious pubescence. The species is named for Mr. Paul V. Siggers, of the United Fruit Company, who accompanied me upon two very agreeable and profitable collecting excursions to the Atlantic lowlands of Costa Rica.

BOTANY.—*New tropical American species of Urticaceae.*¹ ELLSWORTH P. KILLIP, U. S. National Museum.

Most of the species described in this paper belong to the genus *Pilea* and are based upon material collected in Central America. One new species of this genus from Mexico and five from South America, as well as a new *Pouzolzia*, are included. A species is transferred from the genus *Urera* to *Pilea*.

¹ Published by permission of the Secretary of the Smithsonian Institution.